

Amendment and Response under 37 C.F.R. 1.116

Applicant: Brent M. Bradburn

Serial No.: 09/753,170

Filed: January 2, 2001

Docket No.: 10002892-1

Title: PIXEL PROCESSING SYSTEM FOR IMAGE PRODUCTION**IN THE CLAIMS**

Please amend claims 1 and 30 as follows:

1. (Currently Amended) A method of operating a pixel processing system, the method comprising:

receiving a target pixel value and neighbor pixel values;

determining a minimum value and a maximum value among the neighbor pixel values;

if the target pixel value is less than the minimum value, then increasing the target pixel value and, in response to increasing the target pixel value, reducing at least one of the neighbor pixel values; and

if the target pixel value is greater than the maximum value, then reducing the target pixel value and, in response to reducing the target pixel value, increasing at least one of the neighbor pixel values.

2. (Previously Presented) A method of operating a pixel processing system, the method comprising:

receiving a target pixel value and neighbor pixel values;

determining a minimum value and a maximum value among the neighbor pixel values;

if the target pixel value is less than the minimum value, then increasing the target pixel value and, in response to increasing the target pixel value, reducing the neighbor pixel values to maintain an average value; and

if the target pixel value is greater than the maximum value, then reducing the target pixel value and, in response to reducing the target pixel value, increasing the neighbor pixel values to maintain the average value.

3. (Original) The method of claim 2 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.

4. (Original) The method of claim 2 wherein:

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increasing the target pixel value comprises increasing the target pixel value to the minimum value; and

reducing the target pixel value comprises reducing the target pixel value to the maximum value.

5. (Original) The method of claim 2 wherein:

increasing the target pixel value comprises increasing the target pixel value half-way toward the minimum value; and

reducing the target pixel value comprises reducing the target pixel value halfway toward the maximum value.

6. (Original) The method of claim 2 wherein:

reducing the neighbor pixel values comprises reducing the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value; and

increasing the neighbor pixel values comprises increasing the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.

7. (Original) The method of claim 2 wherein the pixel processing system comprises one of a printer and a copier.

8. (Previously Presented) A pixel processing system comprising:

pixel evaluation circuitry configured to receive a target pixel value and neighbor pixel values and determine a minimum value and a maximum value among the neighbor pixel values; and

pixel adjustment circuitry configured to increase the target pixel value if the target pixel value is less than the minimum value and reduce the target pixel value if the target pixel value is greater than the maximum value,

wherein the pixel adjustment circuitry is configured to reduce at least one of the neighbor pixel values in response to increasing the target pixel value and increase at least one of the neighbor pixel values in response to reducing the target pixel value.

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9. (Previously Presented) A pixel processing system comprising:
pixel evaluation circuitry configured to receive a target pixel value and neighbor pixel values and determine a minimum value and a maximum value among the neighbor pixel values; and
pixel adjustment circuitry configured to increase the target pixel value if the target pixel value is less than the minimum value and reduce the target pixel value if the target pixel value is greater than the maximum value,
wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values to maintain an average value in response to increasing the target pixel value and increase the neighbor pixel values to maintain the average value in response to reducing the target pixel value.
10. (Original) The pixel processing system of claim 9 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.
11. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to increase the target pixel value to the minimum value and reduce the target pixel value to the maximum value.
12. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to increase the target pixel value half-way toward the minimum value and reduce the target pixel value halfway toward the maximum value.
13. (Original) The pixel processing system of claim 9 wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.

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14. (Original) The pixel processing system of claim 9 wherein the pixel processing system comprises one of a printer and a copier.
15. (Previously Presented) A product for pixel processing comprising:
pixel processing control instructions configured to direct a processor to receive a target pixel value and neighbor pixel values, determine a minimum value and a maximum value among the neighbor pixel values, increase the target pixel value if the target pixel value is less than the minimum value, and reduce the target pixel value if the target pixel value is greater than the maximum value; and
storage media that is processor-readable and that stores the pixel processing control instructions,
wherein the pixel processing control instructions are configured to direct the processor to reduce at least one of the neighbor pixel values in response to increasing the target pixel value, and increase at least one of the neighbor pixel values in response to reducing the target pixel value.
16. (Previously Presented) A product for pixel processing comprising:
pixel processing control instructions configured to direct a processor to receive a target pixel value and neighbor pixel values, determine a minimum value and a maximum value among the neighbor pixel values, increase the target pixel value if the target pixel value is less than the minimum value, and reduce the target pixel value if the target pixel value is greater than the maximum value; and
storage media that is processor-readable and that stores the pixel processing control instructions,
wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values to maintain an average value in response to increasing the target pixel value, and increase the neighbor pixel values to maintain the average value in response to reducing the target pixel value.
17. (Original) The product of claim 16 wherein the neighbor pixel values correspond to eight neighbor pixels that surround a target pixel corresponding to the target pixel value.

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18. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value to the minimum value and reduce the target pixel value to the maximum value.

19. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value half-way toward the minimum value and reduce the target pixel value halfway toward the maximum value.

20. (Original) The product of claim 16 wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values corresponding to only two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to only the two neighbor pixels horizontally aligned with the target pixel.

21. (Previously Presented) The method of claim 1 wherein:
increasing the target pixel value comprises increasing the target pixel value to at least the minimum value; and
reducing the target pixel value comprises reducing the target pixel value to at least the maximum value.

22. (Previously Presented) The method of claim 1 wherein:
increasing the target pixel value comprises increasing the target pixel value at least half-way toward the minimum value; and
reducing the target pixel value comprises reducing the target pixel value at least halfway toward the maximum value.

23. (Previously Presented) The method of claim 1 wherein:
reducing at least one of the neighbor pixel values comprises reducing the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value; and

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increasing at least one of the neighbor pixel values comprises increasing the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

24. (Previously Presented) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to increase the target pixel value to at least the minimum value and reduce the target pixel value to at least the maximum value.

25. (Previously Presented) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to increase the target pixel value at least half-way toward the minimum value and reduce the target pixel value at least halfway toward the maximum value.

26. (Previously Presented) The pixel processing system of claim 8 wherein the pixel adjustment circuitry is configured to reduce the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding to the target pixel value and increase the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

27. (Previously Presented) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value to at least the minimum value and reduce the target pixel value to at least the maximum value.

28. (Previously Presented) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to increase the target pixel value at least half-way toward the minimum value and reduce the target pixel value at least halfway toward the maximum value.

29. (Previously Presented) The product of claim 15 wherein the pixel processing control instructions are configured to direct the processor to reduce the neighbor pixel values corresponding to two neighbor pixels horizontally aligned with a target pixel corresponding

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to the target pixel value and increase the neighbor pixel values corresponding to the two neighbor pixels horizontally aligned with the target pixel.

30. (Currently Amended) A pixel processing system comprising:

means for receiving a target pixel value and neighbor pixel values and determining a minimum value and a maximum value among the neighbor pixel values;

means for ~~reducing at least one of the neighbor pixel values and~~ increasing the target pixel value if the target pixel value is less than the minimum value and reducing at least one of the neighbor pixel values in response to increasing the target pixel value; and

means for ~~increasing at least one of the neighbor pixel values and~~ reducing the target pixel value if the target pixel value is greater than the maximum value and increasing at least one of the neighbor pixel values in response to reducing the target pixel value.